

REMARKS

Applicant requests reconsideration of the rejection set forth in the Advisory Action, which states:

“The Examiner maintains that Shukh (US 6,667,616 B1) teaches a seed layer [74] made of Ta, NiFeCr, Ru or CrV, which has a purpose to optimize a texture, grain size, and morphology of the subsequent layers. Further Shukh teaches it is desirable to have a certain degree of roughness at the interface between ferromagnetic magnetic layer [80] and spacer [78] and between ferromagnetic layer [76] and spacer [78] (col. 4, lines 15-23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the NiFeCr seed layer of Gill ‘616 with a rough crystallographic surface as taught by Shukh.

The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to provide the NiFeCr seed layer of Gill ‘616 with a rough crystallographic surface as taught by Shukh in order to facilitate transfer of electrons to subsequent layers where spin dependent scattering occurs (Shukh, col. 4, lines 25-26). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA 1969). In this case, Shukh teaches it is desirable to have a certain degree of roughness at a surface interface.

Applicant agrees that “Shukh teaches it is desirable to have a certain degree of roughness at a surface interface.” However, Shukh teaches that a deposited NiFeCr seed layer for the ferromagnetic layer can accomplish this.

The rejection implies that one skilled in the art would be motivated by Shukh’s teachings to experiment with deposited seed layers at various locations throughout a spin valve sensor in a search for improved performance. In a magnetic head such seed layers might include a magnetic shield seed layer, an antiferromagnetic layer seed layer, a pinned magnetic layer seed layer, a spacer layer seed layer, a free magnetic layer seed layer, a magnetic biasing layer seed layer, and/or a cap layer seed layer, just to mention a few possibilities.

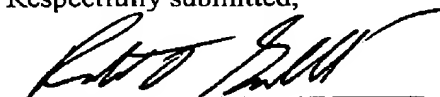
Furthermore, Shukh teaches the use of a deposited seed layer, where the claims require a surface that is “rougher than a top crystallographic surface of a deposited NiFeCr seed layer.” Shukh teaches nothing and suggests nothing with regard to the advantages that might be obtained for such a “rougher than” a deposited seed layer surface, and particularly nothing where the

rougher than a deposited NiFeCr seed layer is one that is disposed beneath an antiferromagnetic layer, as claimed.

Applicant submits that while Shukh may teach that it is desirable to have a certain degree of roughness at a surface interface, it neither teaches nor renders obvious Applicant's claimed NiFeCr seed layer for an antiferromagnetic layer that has a surface which is rougher than that of a deposited seed layer, as claimed.

Applicant therefore requests reconsideration of this rejection.

Respectfully submitted,



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